

Please add the following new claims:

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1 2. A method of providing conferencing resources in an expandable telecommuni-
2 cations system having a plurality of nodes, having means for connecting and dis-
3 connecting communications paths between a plurality of ports, said nodes in-
4 cluding switching nodes and at least two of said switching nodes being
5 conferencing nodes, said conferencing nodes including individual digital signal
6 processing (DSP) circuits programmed to perform a conference between three or
7 more participants who are callers connected at any port in the system, said
8 switching nodes having switching buses on which that node is assigned time slots
9 for transmitting and receiving data and control information and said switching
10 nodes being connected in communicating relationship by an inter-nodal network,
11 and a host coupled to at least one node for controlling the system in which
12 conferencing resources are utilized by one or more nodes participating in a con-
13 ference, the method including the steps of:
14 (A) defining a requested conference as being of one of a dynamic con-
15 ference type, a critical conference type and a static conference
16 type;
17 (B) identifying the DSP circuit within a conferencing node that has
18 available resources for performing a conferencing function for a
19 conference of that type as requested in the system; and
20 (C) after said DSP circuit has been identified, determining whether the
21 node in which said identified DSP circuit is located has sufficient

B1 22
B1 23 available time slots on its switching bus to manage the data to and from all of the participants in the requested conference.

- 1 3. The method of providing conferencing resources as defined in claim 2, including
2 the further step of employing statistical analysis to determine conference type.
- 1 4. The method of providing conferencing services as defined in claim 3, including
2 the further step of using historical data about past system conference behavior in said sta-
3 tistical analysis to predict conference type.
- 1 5. The method of providing conferencing resources as defined in claim 2, including
2 the further step of employing user-defined parameters to determine conference type.
- 1 6. The method of providing conferencing resources as defined in claim 2, including
2 the further step of using historical information about an average conference generally
3 handled by a particular system and handled at a particular port to predict conference type.
- 1 7. The method of allocating conferencing services as defined in claim 2 including
2 the further step of defining as said dynamic conference as a conference that is likely to
3 change in size based upon predetermined criteria.
- 1 8. The method of allocating conference services as defined in claim 7, including the
2 further step of assigning the DSP circuit card having the maximum available capacity to a
3 conference which has been identified as a dynamic conference.
- 1 9. The method of allocating conference services as defined in claim 8, indicating the
2 further step of selecting for a dynamic conference the DSP circuit in the system having as
3 many channels as possible such that a conference can grow as large as possible and that
4 channels remain available for participants who join the conference while in progress.

10. The method of allocating conferencing services as defined in claim 2 including
the further step of defining as said critical conference a conference that is a conference
that requires the maximum opportunity or growth in the system.

11. The method of allocating conferencing services as defined in claim 10 including
the further step of selecting, for a critical conference, the DSP circuit with the maximum
available capacity and instructing the DSP circuit with said maximum available capacity
to resolve these conference resources and to establish the conference, and further in-
structing the DSP circuit to block other conferences from being assigned to that DSP cir-
cuit such that capacity remains available for that critical conference, for the life of that
critical conference.

12. The method of allocating conferencing services as defined in claim 11 including
the further step of revealing blocked channels for use by the DSP circuit, after the critical
conference is finished.

13. The method of allocating conferencing services as defined in claim 2, including
the further step of defining as said static conference as a conference, the number of par-
ticipants in which is determined will remain constant.

14. The method of allocating conferencing services a dined in claim 13, including the
further step of assigning a static conference to a DSP circuit as a "best fit" basis.

15. The method of providing conferencing services as defined in claim 2, wherein
said telecommunications system includes a line-to-switch (LSD) data bus comprised of
multiple individual bus conductors, each bus conductor carrying time slots coming into
the mode from line cards, including T1 line cards, and said system further including a

5 switch-to-line (SLD) data bus comprised of multiple individual bus conductors that carry
6 time slots of PCM-encoded data from a nodal switch in the node back out as a destination
7 line card, the method including the steps of:

8 identifying a zone of time slots having the lowest order of allocation such that it
9 is least likely to be taken when a new T1 card is inserted into the system during opera-
10 tion, and assigning a conferencing node to use these lowest order of allocation time slots
11 for a requested conference.

1 16. The method of providing conferencing resources as defined in claim 15, including
2 the step of:

3 (a) allocating zones of time slots in such a manner that 192 time slots of a T1
4 span are divided into the following segments:

5 time slots 0-191 are in the regular T1 channel;

6 time slots 192-215 are the lower dead zone;

7 time slots 216-223 are in the lower small dead zone;

8 time slots 224-247 are in the upper large dead zone; and

9 time slots 248-255 are in the upper small dead zone; and

10 (b) assigning time slots in the lower and upper small dead zones of the indi-
11 vidual bus conductors to conferences.

1 17. An expandable telecommunications system having means for conferencing three
2 or more participants interfaced with the system:
3 the system including a plurality of nodes for performing telecommunications switching,
4 each of said switching nodes including means for dynamically connecting or disconnect-
5 ing communication paths with respect to various ones of a plurality of ports, means for
6 time switching information to or from said ports, means for transmitting and receiving
7 information in packetized forms, and means connected in communicating relationships
8 including a bus or carrying data to and from said ports, the system comprising:
9 (a) a host connected in communicating relationship with at least one of said
10 switching nodes, said host controlling predetermined operations of the system;
11 (b) means in said switching nodes for generating and sending a message re-
12 questing establishment of a conference call for at least three conferees connected to one
13 or more of said nodes;
14 (c) means for interconnecting said switching nodes in communicating relationships
15 and operable in conjunction with said transmitting and receiving means to transfer said
16 packetized information such that information which originates from any port in the
17 switching nodes is substantially continuously communicable to any node interfaced with
18 said interconnecting means; and
19 (d) at least one conferencing node for providing conferencing services, said at
20 least one conferencing node interfaced with said interconnecting means and including
21 individual DSP circuits; and

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23 (e) means for allocating conferencing resources including:

24 1. means or determining whether a DSP circuit in a conferencing

25 mode has available conferencing resources to perform a requested conference; and

26 2. means for determining whether the conferencing node has suffi-

27 cient available time slots on its switching buses to manage the data to and from the con-

28 ferences or a particular requested conference.

1 18. The expandable telecommunications system as defined in claim 17 further com-
2 prising:

3 A. a DSP card in said conferencing node, including:

4 1. a DSP module which contains a plurality of DSP circuits; and

5 2. a CPU including means for receiving messages about conferences

6 to be established, and means for routing voice information to a DSP chip identified for a

7 particular conference; and

8 B. line-to-switch (LSD) data bus interfaced with line cards which connect
9 ports in the system, and which carries a PCM-encoded voice information from the line
10 cards to said DSP cards.